

Hot Springs Bridge (Bridge No. 993370)  
Spanning Bruneau River on Hot Springs Road  
Bruneau vicinity  
Owyhee County  
Idaho

HAER No. ID-12

HAER  
ID  
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
Western Region  
National Park Service  
Department of the Interior  
San Francisco, California 94102

HISTORIC AMERICAN ENGINEERING RECORD

Hot Springs Bridge  
(Bridge No. 993370)

HAER No. ID-12

Location: Spanning the Bruneau River, southeast 7.5 miles from the intersection of Bruneau Canyon Road and State Highway 78 on Hot Springs Road.  
Bruneau vicinity, Owyhee County, Idaho

USGS 7.5 minute quadrangle, Bruneau, Idaho - NE 1/4, NE 1/4, Section 27, R.6E., T.7S., Boise Meridian

Date of Construction: 1910

Engineer: Hennepin Bridge Company

Builder: J. H. Forbes, Caldwell, Idaho

Present Owner: Owyhee County  
Courthouse  
Murphy, Idaho 83650

Present Use: Vehicular bridge

Significance: The Hot Springs Bridge is the only multi-span, pin-connected Pratt pony truss bridge on the local Idaho highway system. It is important in Owyhee County history for its relation to events in local economic and agricultural development. The bridge is one of two public bridges which cross the Bruneau River. It was placed on the National Register of Historic Places in 1984.

Historian: Rebecca Herbst  
National Park Service

Prepared by: Robert Gene Bober, Jr., P.E.  
J-U-B Engineers, Inc.  
Boise, Idaho 83709  
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Edited and  
Transmitted by: Jean P. Yearby, HAER, 1988

### Statement of Significance

From the years 1888 to 1910, four bridges were constructed across the Bruneau River. The Hot Springs Bridge crosses the Bruneau River at the southwestern end of Bruneau, and is one of two bridges which still stands in the vicinity. The unincorporated, agricultural village of Bruneau still exists, with an approximate population of 100 residents.

When initially constructed, the bridge provided a connection to rural dirt roads linking transportation to the Snake River and Mountain Home with Duck Valley and Nevada towns. The mode of transportation was initially by horse-drawn vehicles and farm implements. Bruneau existed as a solely agricultural community, supported by cattle and sheep ranches, dry land grain farms, and river valley farms with diversified small grains of corn and hay.

The Hot Springs Bridge is significant as the only pin-connected Pratt pony truss on the Idaho highway system with more than one span. In addition, the bridge was built by J. H. Forbes, Idaho's first major bridge contractor, who later established an inventory of diversified projects while experiencing little competitive pressure.

### Bridge Description

Owyhee County Commissioners stipulated that the Hennepin Bridge Company would design the Hot Springs Bridge, which replaced a previous steel bridge. The contract was awarded to J. H. Forbes for the sum of \$4,690.

The Hot Springs Bridge consists of two 60-foot Pratt pony truss spans with pinned connections. Bridge width provides service of 16.5 feet. The superstructure is comprised of upper chords (channels with riveted batten plates and cover plates); lower chords (steel eye bars); verticals (laced angles); and diagonals (eye bars or rods with turnbuckles). The floor system consists of steel I-beam, floor beam, timber stringers, and a timber deck. The structure rests on reinforced concrete abutments with cylindrical concrete piers with a diaphragm wall at mid-span. The bridge traverses the Bruneau River at a right angle.

Construction of the bridge was typical of work from that time period. Significant features are the pin connections with bolts and rivets. Another noticeable and distinct feature is the use of eye bars or rods with turnbuckles. Both are used to adjust movement of the bridge due to live loads. Those types of features are referred to as members in tension.

### Site Description

The bridge site lies at the southeastermost end of the Bruneau Valley, elevation 2600 feet mean sea level. Bruneau is an unincorporated rural community located in north-central Owyhee County, with an approximate population of 100 residents. The primary use of this region today remains unchanged. Manmade improvements to irrigation, utilities, and highways have gradually occurred over the decades.

Among the geologic wonders of the Bruneau Valley is a group of hot water springs. Above, where the Bruneau River enters the valley, is the Hot Springs Falls. Directly above the falls, about an eighth of a mile upstream, hot water pours from the ground. The falls drop about 20 feet to the level of the Bruneau River. Directly upstream of the falls lies the Indian Bathtub, where Indian signs are drawn on the walls. Progressing further upstream, one enters the wonders of the unique and spectacular Bruneau Canyon.

The area surrounding the Bruneau Valley has changed drastically since first being settled by the French trapper Baptiste Bruneau, from whom it received its name. An abundance of wild game was once present. Hawaiian trappers who worked the region are responsible for the county's name, Owyhee. At one time, the valley was called Valley of the Tall Grass, since, several decades ago, there was a considerable amount of hardwood trees in the area.

Being solely an agricultural community, farm production included irrigated row crops such as potatoes, corn, sugar beets, and beans. Livestock ranching included beef cattle, dairy cattle, sheep, horses, and pigs. Today, more diversified valley farms exist through irrigation technology versus dry land farming. Beef cattle ranches have replaced sheep ranches, and bridge traffic witnessed heavy and wider agricultural and personal than the horse-drawn modes of the past. Manmade irrigation improvements were made on the Harris Dam, the Buckaroo Ditch, the Hot Springs Canal, and the C. J. Strike Reservoir.

The first bridge in Bruneau was built in 1888. An entirely wooden structure, it was located as near the center of the Bruneau Valley as possible (between the Levi Harris and Benjamin Hawes ranches). In 1889, high spring water washed the bridge out. Nevertheless, the next bridge that was constructed was also made entirely of wood, constructed at the extreme upper end of the valley, the Hot Springs Area. The first high waters also washed this bridge out. A steel bridge (Hot Springs Bridge) replaced the last design.

In 1910, another steel bridge was built lower down the valley, which provided a connection to the Snake River and Mountain Home with Duck Valley and Nevada towns. These two bridges still stand.

### Bridge Builder

James H. Forbes<sup>1</sup> of Caldwell, Idaho, was the first Idaho-based bridge builder of merit. Born in Hamilton County, Ohio, on July 27, 1862, Forbes spent his youth working on farm labor jobs. In 1884, Forbes' transition as a stonemason and bridge builder took place as he journeyed west. The following are his accomplishments, which led to his eventual merit as a bridge builder:

1. Employment with Cincinnati Southern, Southern Pacific, and Atchison, Topeka and Santa Fe Railroads.
2. 1900 - Participation on bridge across Yellowstone River in Glendive, Montana.
3. 1900 - 1901 - Established contracting practice at Emmett, Idaho.
4. 1901 - Constructed Eagle Island Bridge across the Boise River in Ada County, Idaho.
5. 1904 - Moved base operations to Caldwell, Idaho.
6. 1910 - Became sole proprietor of Caldwell Transfer Company.

Some of his additional accomplishments include major engineering feats, such as:

1. Canyon Canal Dam, Emmett, Idaho.
2. Emmett Electric Light Plant, Emmett, Idaho.
3. Emmett Water Works, Emmett, Idaho.
4. Parma Water Works, Parma, Idaho
5. Midval Bridge, Washington County, Idaho<sup>2</sup>
6. United Road Bridge, Washington County, Idaho<sup>2</sup>

Forbes' inventory of bridges also includes a small number of short span, concrete tee-beam bridges during the 1920s under Department of Public Works contracts.

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<sup>1</sup> See portrait on page 6.

<sup>2</sup> Both bridges are the only known multiple-span, overhead, truss bridges built by Forbes.

### Bridge Maintenance

Maintenance has been provided to the bridge throughout its service. Concrete pier supports are encased by steel sheets wrapped and riveted around their circumference. It is not known whether initial construction activities used them as cast-in-place forms, but they have prevented damage during peak Bruneau River ice and river flows. An unsuccessful effort was undertaken to repair the sheeting. Running planks have been replaced over the years. The west end abutment of the bridge has also been repaired. Other repairs have not been successful.

The existing Hot Springs Bridge has a restricted load limit of seven tons. Due to increased highway loads, heavier and wider farm equipment, and the impending threat of liability due to school bus traffic, it is necessary to completely replace the Hot Springs Bridge, in order to maintain reliable and safe service to the area. Therefore, the entire existing structure will be dismantled and removed. A new 123-foot-long bridge with modified approaches will replace the existing structure immediately adjacent to it on the downstream side.

### Principal References

Bridge Plate - J. H. Forbes

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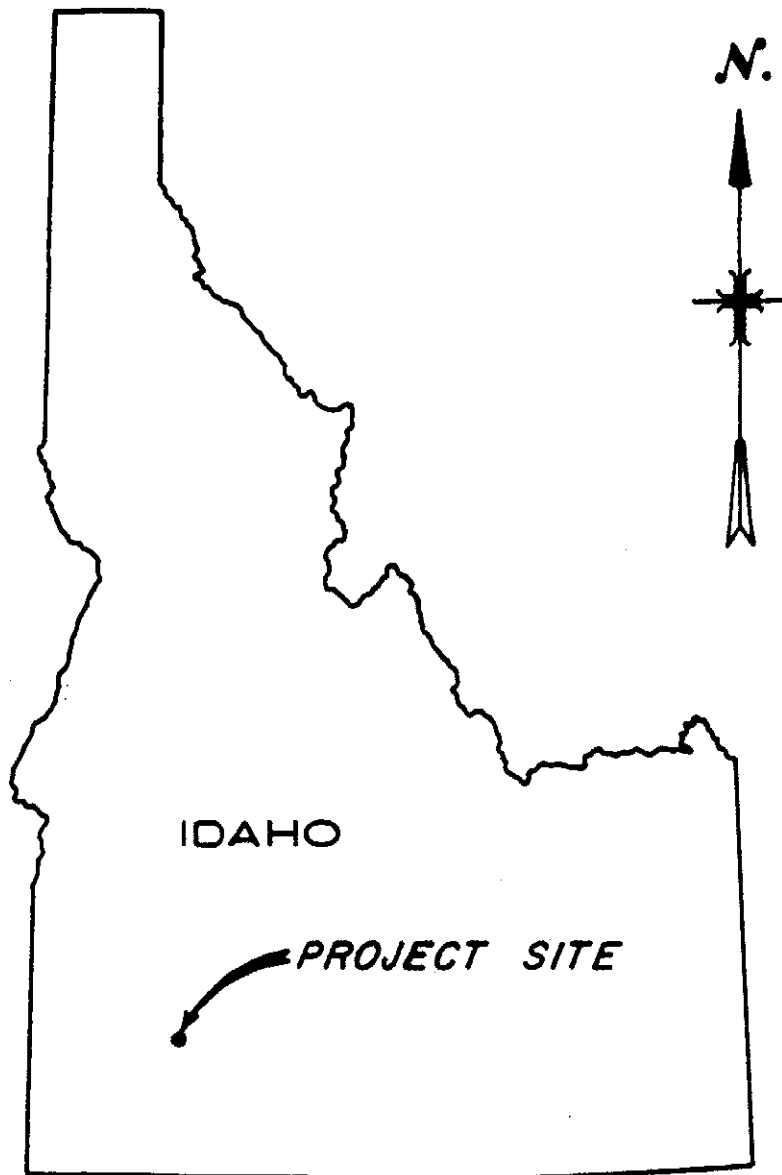


*J. H. Forbes.*

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VICINITY MAP

No Scale



